

methods of application of manure and wastewater to assure use for an agricultural purpose (e.g., certain applications to frozen, snow covered or saturated land) to prevent impairment of water quality; 4) address risk of contamination via groundwater with a direct hydrological connection to surface water; 5) address the risk of improper manure application off-site by either requiring that the CAFO operator obtain from off-site recipients a certification that they are land applying CAFO manure according to proper agricultural practices or requiring the CAFO to provide information to manure recipients and keep appropriate records of off-site transfers, or both; and 6) establish design standards to account for chronic storm events.

Today's proposal would also:

- C clarify EPA's interpretation of the agricultural storm water exemption and its implications for land application of manure both at the CAFO and off-site; and
- C clarify application of the CWA to dry weather discharges at AFOs.

EPA is seeking comment on the entire proposal. Throughout the preamble, EPA identifies specific components of the proposed rule on which comment is particularly sought.

III. Background

A. The Clean Water Act

Congress passed the Federal Water Pollution Control Act (1972), also known as the Clean Water Act (CWA), to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." (33 U.S.C. § 1251(a)). The CWA establishes a comprehensive program for protecting our nation's waters. Among its core provisions, the CWA prohibits the discharge of pollutants from a point source to waters of the U.S. except as authorized by a National Pollutant Discharge Elimination System (NPDES) permit. The CWA establishes the NPDES permit program to authorize and regulate the discharges of pollutants to waters of the U.S. EPA has issued comprehensive regulations that implement the NPDES program at 40 CFR Part 122. The CWA also provides for the development of technology-based and water quality-based effluent limitations that are imposed through NPDES permits to control discharges of pollutants.

1. The National Pollutant Discharge Elimination System (NPDES) Permit Program

Under the NPDES permit program, all point sources that directly discharge pollutants to waters of the U.S. must apply for a NPDES permit and may only discharge pollutants in compliance with the terms of that permit. Such permits must include any nationally established, technology based effluent discharge limitations (i.e., effluent guidelines) (discussed below, in subsection III.A.2). In the absence of national effluent limitations, NPDES permit writers must establish technology based limitations and standards on a case-by-case basis, based on their “best professional judgement (BPJ).”

Water quality-based effluent limits also are included in a permit where technology-based limits are not sufficient to ensure compliance with State water quality standards that apply to the receiving water or where required to implement a Total Maximum Daily Load (TMDL). Permits may also include specific best management practices to achieve effluent limitations and standards, typically included as special conditions. In addition, NPDES permits normally include monitoring and reporting requirements, and standard conditions (i.e., conditions that apply to all NPDES permits, such as the duty to properly operate and maintain equipment and treatment systems).

NPDES permits may be issued by EPA or a State, Territory, or Tribe authorized by EPA to implement the NPDES program. Currently, 43 States and the Virgin Islands are authorized to administer the base NPDES program (the base program includes the federal requirements applicable to AFOs and CAFOs). Alaska, Arizona, the District of Columbia, Idaho, Maine, Massachusetts, New Hampshire, and New Mexico are not currently authorized to implement the NPDES program. In addition, Oklahoma, while authorized to administer the NPDES program, does not have CAFO regulatory authority. No tribe is currently authorized.

A NPDES permit may be either an individual permit tailored for a single facility or a general permit applicable to multiple facilities within a specific category. Prior to the issuance of an individual permit, the owner or operator submits a permit application with facility-specific information to the permit authority, who reviews the information and prepares a draft permit. The permit authority prepares a fact sheet explaining the draft permit, and publishes the draft permit and fact sheet for public review and comment. Following consideration of public comments by the permit authority, a final permit is issued. Specific procedural requirements apply to the modification, revocation and reissuance, and termination of a NPDES permit. NPDES permits are subject to a maximum 5-year term.

General NPDES permits are available to address a category of discharges that involve similar operations with similar wastes. General permits are not developed based on facility-specific information. Instead, they are developed based on data that characterize the type of operations being addressed and the pollutants being discharged. Once a general permit is drafted, it is published for public review and comment accompanied by a fact sheet that explains the permit. Following EPA or State permit authority consideration of public comments, a final general permit is issued. The general permit specifies the type or category of facilities that may obtain coverage under the permit. Those facilities that fall within this category then must submit a “notice of intent” (NOI) to be covered under the general permit to gain permit coverage. [Under 40 CFR 122.28(b)(2)(vi), the permit authority also

may notify a discharger that it is covered under a general permit even where that discharger has not submitted a notice of intent to be covered by the permit.] EPA anticipates that the Agency and authorized States will use general NPDES permits to a greater extent than individual permits to address CAFOs.

2. Effluent Limitation Guidelines and Standards

Effluent limitation guidelines and standards (which we also refer to today as “effluent guidelines” or “ELG”) are national regulations that establish limitations on the discharge of pollutants by industrial category and subcategory. These limitations are subsequently incorporated into NPDES permits. The effluent guidelines are based on the degree of control that can be achieved using various levels of pollution control technology, as outlined below. The effluent guidelines may also include non-numeric effluent limitations in the form of best management practices requirements or directly impose best management practices as appropriate.

a. Best Practicable Control Technology Currently Available (BPT)--Section 304(b)(1) of the CWA

In the guidelines for an industry category, EPA defines BPT effluent limits for conventional, toxic, and non-conventional pollutants. In specifying BPT, EPA looks at a number of factors. EPA first considers the cost of achieving effluent reductions in relation to the effluent reduction benefits. The Agency also considers the age of the equipment and facilities, the processes employed and any required process changes, engineering aspects of the control technologies, non-water quality environmental impacts (including energy requirements), and such other factors as the Agency deems appropriate (CWA 304(b)(1)(B)). Traditionally, EPA establishes BPT effluent limitations based on the average of the best performances of facilities within the industry of various ages, sizes, processes or other common characteristics. Where existing performance is uniformly inadequate, EPA may require higher levels of control than currently in place in an industrial category if the Agency determines that the technology can be practically applied.

b. Best Available Technology Economically Achievable (BAT)--Section 304(b)(2) of the CWA

In general, BAT effluent limitations represent the best existing economically achievable performance of direct discharging plants in the industrial subcategory or category. The factors considered in assessing BAT include the cost of achieving BAT effluent reductions, the age of equipment and facilities involved, the processes employed, engineering aspects of the control technology, potential process changes, non-water quality environmental impacts (including energy requirements), and such factors as the Administrator deems appropriate. The Agency retains considerable discretion in assigning the weight to be accorded to these factors. An additional statutory factor considered in setting BAT is economic achievability. Generally, the achievability is determined

on the basis of the total cost to the industrial subcategory and the overall effect of the rule on the industry's financial health. BAT limitations may be based on effluent reductions attainable through changes in a facility's processes and operations. As with BPT, where existing performance is uniformly inadequate, BAT may be based on technology transferred from a different subcategory within an industry or from another industrial category. BAT may be based on process changes or internal controls, even when these technologies are not common industry practice.

c. Best Conventional Pollutant Control Technology (BCT)--Section 304(b)(4) of the CWA

The 1977 amendments to the CWA required EPA to identify effluent reduction levels for conventional pollutants associated with BCT technology for discharges from existing industrial point sources. BCT is not an additional limitation, but replaces Best Available Technology (BAT) for control of conventional pollutants. In addition to other factors specified in Section 304(b)(4)(B), the CWA requires that EPA establish BCT limitations after consideration of a two part "cost-reasonableness" test. EPA explained its methodology for the development of BCT limitations in July 1986 (51 FR 24974). Section 304(a)(4) designates the following as conventional pollutants: biochemical oxygen demand (BOD₅), total suspended solids (TSS), fecal coliform, pH, and any additional pollutants defined by the Administrator as conventional. The Administrator designated oil and grease as an additional conventional pollutant on July 30, 1979 (44 FR 44501).

d. New Source Performance Standards (NSPS)--Section 306 of the CWA

NSPS reflect effluent reductions that are achievable based on the best available demonstrated control technology. New facilities have the opportunity to install the best and most efficient production processes and wastewater treatment technologies. As a result, NSPS should represent the greatest degree of effluent reduction attainable through the application of the best available demonstrated control technology for all pollutants (i.e., conventional, non-conventional, and priority pollutants). In establishing NSPS, EPA is directed to take into consideration the cost of achieving the effluent reduction and any non-water quality environmental impacts and energy requirements.

B. History of EPA Actions to Address CAFOs

EPA's regulation of wastewater and manure from CAFOs dates to the 1970s. The existing NPDES CAFO regulations were issued on March 18, 1976 (41 FR 11458). The existing national effluent limitations guideline and standards for feedlots were issued on February 14, 1974 (39 FR. 5704).

By 1992, it became apparent that the regulation and permitting of CAFOs needed review due to changes in the livestock industry, specifically the consolidation of the industry into fewer, but larger

operations. In 1992, the Agency established a workgroup composed of representatives of State agencies, EPA regional staff and EPA headquarters staff to address issues related to CAFOs. The workgroup issued *The Report of the EPA/State Feedlot Workgroup* in 1993. One of the workgroup's recommendations was that the Agency should provide additional guidance on to how CAFOs are regulated under the NPDES permit program. The Agency issued such guidance, entitled *Guide Manual On NPDES Regulations For Concentrated Animal Feeding Operations*, in December 1995.

Massive spills of hog manure (see Section V.B.1.c) and *Pfiesteria* outbreaks (see Section V.C.1.a.), continued industry consolidation, and increased public awareness of the potential environmental and public health impacts of animal feeding operations resulted in EPA taking more comprehensive actions to improve existing regulatory and voluntary programs. In 1997, dialogues were initiated between EPA and the poultry and pork livestock sectors. On December 12, 1997, the Pork Dialogue participants, including representatives from the National Pork Producers Council (NPPC) and officials from EPA, U.S. Department of Agriculture (USDA), and several States, issued a *Comprehensive Environmental Framework for Pork Production Operations*. Continued discussions between EPA and the NPPC led to development of a *Compliance Audit Program Agreement* (CAP Agreement) that is available to any pork producer who participates in NPPC's environmental assessment program. The CAP Agreement for pork producers was issued by the Agency on November 24, 1998. Under the agreement, pork producers that voluntarily have their facilities inspected are eligible for reduced penalties for any CWA violations discovered and corrected. The Poultry Dialogue produced a report in December 1998 that established a voluntary program focused on promoting protection of the environment and water quality through implementation of litter management plans and other actions: *Environmental Framework and Implementation Strategy: A Voluntary Program Developed and Adopted by the Poultry Industry*, Adopted at the December 8-9, 1998 meeting of the Poultry Industry Environmental Dialogue (U.S. Poultry and Egg Association).

President Clinton and Vice President Gore announced the Clean Water Action Plan (CWAP) on February 19, 1998. The CWAP describes the key water quality problems our nation faces today and suggests both a broad plan and specific actions for addressing these problems. The CWAP indicated that polluted runoff is the greatest source of water quality problems in the United States today and that stronger polluted runoff controls are needed. The CWAP goes on to state that one important aspect of such controls is the expansion of CWA permit controls, including those applicable to large facilities such as CAFOs.

The CWAP included two key action items that address animal feeding operations (AFOs). First, it stated that EPA should publish and, upon considering public comments, implement an AFO strategy for important and necessary EPA actions on standards and permits. EPA published a *Draft Strategy for Addressing Environmental and Public Health Impacts from Animal Feeding Operations* in March 1998 (draft AFO Strategy). In accordance with EPA's draft AFO Strategy, EPA's Office of Enforcement and Compliance Assurance (OECA) also issued the *Compliance*

Assurance Implementation Plan for Animal Feeding Operations in March 1998. This plan describes compliance and enforcement efforts being undertaken to ensure that CAFOs comply with existing CWA regulations. Second, the CWAP stated that EPA and USDA should jointly develop a unified national strategy to minimize the water quality and public health impacts of AFOs. EPA and USDA jointly published a draft *Unified National Strategy for Animal Feeding Operations* (hereinafter *Unified National AFO Strategy*) on September 21, 1998 and, after sponsoring and participating in 11 public listening sessions and considering public comments on the draft strategy, published a final *Unified National AFO Strategy* on March 9, 1999. This joint strategy was generally consistent with and superceded EPA's draft AFO Strategy.

The *Unified National AFO Strategy* establishes national goals and performance expectations for all AFOs. The general goal is for AFO owners and operators to take actions to minimize water pollution from confinement facilities and land where manure is applied. To accomplish this goal, the AFO Strategy established a national performance expectation that all AFOs should develop and implement technically sound, economically feasible, and site-specific comprehensive nutrient management plans (CNMPs) to minimize impacts on water quality and public health.

The *Unified National AFO Strategy* identified seven strategic issues that should be addressed to better resolve concerns associated with AFOs. These include: 1) fostering CNMP development and implementation; 2) accelerating voluntary, incentive-based programs; 3) implementing and improving the existing regulatory program; 4) coordinating research, technical innovation, compliance assistance, and technology transfer; 5) encouraging industry leadership; 6) increasing data coordination; and 7) establishing better performance measures and greater accountability. Today's proposed rule primarily addresses strategic issue three: implementing and improving the existing AFO regulatory program.

The *Unified National AFO Strategy* observed that, for the majority of AFOs (estimated in the AFO Strategy as 95 percent), voluntary efforts founded on locally led conservation, education, and technical and financial assistance would be the principal approach for assisting owners and operators in developing and implementing site-specific CNMPs and reducing water pollution and public health risks. Future regulatory programs would focus permitting and enforcement priorities on high risk operations, which were expected to constitute the remaining 5 percent. EPA estimates that today's proposal would result in permit coverage for approximately 7 percent of AFOs under the two-tier structure, and between 4.5 percent and 8.5 percent of AFOs under the three-tier structure.

Following publication of the *Unified National AFO Strategy*, EPA issued on August 6, 1999 the *Draft Guidance Manual and Example NPDES Permit for CAFOs* for a 90-day public comment period. EPA undertook development of this new guidance manual in order to provide permit writers with improved guidance on applying the existing regulations to a changing industry. While the guidance manual has not been finalized, many of the issues discussed in the draft guidance manual are also addresses in today's preamble. EPA expects to issue final, revised permitting guidance to reflect the revised CAFO regulations when they are published in final form.

C. What Requirements Apply to CAFOs?

The discussion below provides an overview of the scope and requirements imposed under the existing NPDES CAFO regulations and feedlot effluent limitations guidelines. It also explains the relationship of these two regulations, and summarizes other federal and State regulations that potentially affect AFOs.

1. What are the Scope and Requirements of the Existing NPDES Regulations for CAFOs?

Under existing 40 CFR 122.23, an operation must be defined as an animal feeding operation (AFO) before it can be defined as a concentrated animal feeding operation (CAFO). The term “animal feeding operation” is defined in EPA regulations as a “lot or facility” where animals “have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12 month period and crops, vegetation[,] forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility.” This definition is intended to enable the NPDES authorized permitting authority to regulate facilities where animals are stabled or confined and waste is generated.

Once a facility meets the AFO definition, its size, based upon the total numbers of animals confined, is a key factor in determining whether it is a CAFO. To define these various livestock sectors, EPA established the concept of an “animal unit” (AU), which varies according to animal type. Each livestock type, except poultry, is assigned a multiplication factor to facilitate determining the total number of AU at a facility with more than one animal type. These multiplication factors are as follows: Slaughter and feeder cattle - 1.0, Mature dairy cattle - 1.4, Swine weighing over 25 kilograms (approximately 55 pounds) - 0.4, Sheep - 0.1, Horses - 2.0. There are currently no animal unit conversions for poultry operations. The regulations, however, define the total number of animals (subject to waste handling technology restrictions) for specific poultry types that make these operations subject to the regulation. (40 CFR Part 122, Appendix B).

Under the existing regulations, an animal feeding operation is a concentrated animal feeding operation if it meets the regulatory CAFO definition or if it is designated as a CAFO. The regulations automatically define an AFO to be a CAFO if either more than 1,000 AU are confined at the facility, or more than 300 AU are confined at the facility and: (1) pollutants are discharged into navigable waters through a manmade ditch, flushing system, or other similar man-made device; or (2) pollutants are discharged directly into waters that originate outside of and pass over, across, or through the facility or come into direct contact with the confined animals. However, no animal feeding operation is defined as a CAFO if it discharges only in the event of a 25-year, 24-hour storm event (although it still may be designated as a CAFO). Although they are not automatically defined as a CAFO, facilities still may be designated as a CAFO even if they discharge only in a 25-year, 24-hour storm event.

An AFO can also become a CAFO through designation. The NPDES permitting authority may, on a case-by-case basis, after conducting an on-site inspection, designate any AFO as a CAFO based on a finding that the facility “is a significant contributor of pollution to the waters of the United States.” (40 CFR 122.23(c)). Pursuant to 40 CFR 122.23(c)(1)(i)-(v) the permitting authority shall consider several factors making this determination, including: (1) the size of the operation, and amount of waste reaching waters of the U.S.; (2) the location of the operation relative to waters of the U.S.; (3) the means of conveyance of animal waste and process waste waters into waters of the U.S.; and (4) the slope, vegetation, rainfall and other factors affecting frequency of discharge. A facility with 300 animal units or less, however, may not be designated as a CAFO unless pollutants are discharged into waters of the U.S. through a man-made ditch, flushing system, or other similar man-made device, or are discharged directly into waters of the U.S. which originate outside of the facility and pass over, across or through the facility or otherwise come into direct contact with the animals confined in the operation.

Once defined or designated as a CAFO, the operation is subject to NPDES permitting. As described above, a permit contains the specific technology-based effluent limitations (whether based on the effluent guidelines or BPI); water quality-based limits if applicable; specific best management practices; monitoring and reporting requirements; and other standard NPDES conditions.

2. What are the Scope and Requirements of the Existing Feedlot Effluent Guidelines?

In 1974, EPA promulgated effluent limitations guidelines applicable to CAFOs (40 CFR Part 412) and established in those regulations the technology-based effluent discharge standards for the facilities covered by the guidelines. The effluent guidelines for the feedlots point source category have two subparts: Subpart B for ducks, and Subpart A for all other feedlot animals. Under the existing regulation, Subpart A covers: beef cattle; dairy cattle; swine; poultry; sheep; and horses. Further, the effluent guidelines apply only to facilities with 1,000 AU or greater. Today’s revisions to the effluent guidelines affect only the guidelines for the beef, dairy, swine, poultry and veal subcategories, while the NPDES revisions are applicable to all confined animal types.

The current feedlot effluent guidelines based on BAT prohibit discharges of process wastewater pollutants to waters of the U.S. except when chronic or catastrophic storm events cause an overflow from a facility designed, constructed, and operated to hold process-generated wastewater plus runoff from a 25-year, 24-hours storm event. Animal wastes and other wastewater that must be controlled include: (1) spillage or overflow from animal or poultry watering systems, washing, cleaning, or flushing pens, barns, manure pits, or other feedlot facilities, direct contact swimming, washing, or spray cooling of animals, and dust control; and (2) precipitation (rain or snow) which comes into contact with any manure, litter, or bedding, or any other raw material or intermediate or final material or product used in or resulting from the production of animals or poultry or direct products (e.g., milk or eggs). 40 CFR 412.11.

As described above, in those cases where the feedlot effluent guidelines do not apply to a CAFO (i.e., the operation confines fewer than 1,000 animal units), the permit writer must develop, for inclusion in the NPDES permit, technology-based limitations based on best professional judgement (BPJ).

3. What Requirements May be Imposed on AFOs Under the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA)?

In the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA), Congress required States with federally-approved coastal zone management programs to develop and implement coastal nonpoint pollution control programs. Thirty-three (33) States and Territories currently have federally approved Coastal Zone Management programs. Section 6217(g) of CZARA called for EPA, in consultation with other federal agencies, to develop guidance on “management measures” for sources of nonpoint source pollution in coastal waters. In January 1993, EPA issued its *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters* which addresses five major source categories of nonpoint pollution: urban runoff, agriculture runoff, forestry runoff, marinas and recreational boating, and hydromodification.

Within the agriculture runoff nonpoint source category, the EPA guidance specifically included management measures applicable to all new and existing “confined animal facilities.” The guidance identifies which facilities constitute large and small confined animal facilities based solely on the number of animals or animal units confined (the manner of discharge is not considered). Under the CZARA guidance: a large beef feedlot contains 300 head or more, a small feedlot between 50-299 head; a large dairy contains 70 head or more, a small dairy between 20-69 head; a large layer or broiler contains 15,000 head or more, a small layer or broiler between 5,000-14,999 head; a large turkey facility contains 13,750 head or more, a small turkey facility between 5,000-13,749 head; and a large swine facility contains 200 head or more, a small swine facility between 100-199 head.

The thresholds in the CZARA guidance for identifying large and small confined animal facilities are lower than those established for defining CAFOs under the current NPDES regulations. Thus, in coastal States the CZARA management measures potentially apply to a greater number of small facilities than the existing CAFO definition. Despite the fact that both the CZARA management measures for confined animal facilities and the NPDES CAFO regulations address similar operations, these programs do not overlap or conflict with each other. Any CAFO facility, defined by 40 CFR Part 122, Appendix B, that has a NPDES CAFO permit is exempt from the CZARA program. If a facility subject to CZARA management measures is later designated a CAFO by a NPDES permitting authority, the facility is no longer subject to CZARA. Thus, an AFO cannot be subject to CZARA and NPDES permit requirements at the same time.

EPA’s CZARA guidance provides that new confined animal facilities and existing large confined animal facilities should limit the discharge of facility wastewater and runoff to surface waters by

storing such wastewater and runoff during storms up to and including discharge caused by a 25-year, 24-hour frequency storm. Storage structures should have an earthen or plastic lining, be constructed with concrete, or constitute a tank. All existing small facilities should design and implement systems that will collect solids, reduce contaminant concentrations, and reduce runoff to minimize the discharge of contaminants in both facility wastewater and in runoff caused by storms up to and including a 25-year, 24-hour frequency storm. Existing small facilities should substantially reduce pollutant loadings to ground water. Both large and small facilities should also manage accumulated solids in an appropriate waste utilization system. Approved State CZARA programs have management measures in conformity with this guidance and enforceable policies and mechanisms as necessary to assure their implementation.

In addition to the confined animal facility management measures, the CZARA guidance also includes a nutrient management measure that is intended to be applied by States to activities associated with the application of nutrients to agricultural lands (including the application of manure). The goal of this management measure is to minimize edge of field delivery of nutrients and minimize the leaching of nutrients from the root zone.

The nutrient management measures provide for the development, implementation, and periodic updating of a nutrient management plan. Such plans should address: application of nutrients at rates necessary to achieve realistic crop yields; improved timing of nutrient application; and the use of agronomic crop production technology to increase nutrient use efficiency. Under this management measure, nutrient management plans include the following core components: farm and field maps showing acreage, crops, and soils; realistic yield expectations for the crops to be grown; a summary of the nutrient resources available to the producer; an evaluation of field limitations based on environmental hazards or concerns; use of the limiting nutrient concept to establish the mix of nutrient sources and requirements for the crop based on realistic crop expectations; identification of timing and application methods for nutrients; and provisions for proper calibration and operation of nutrient application equipment.

4. How Are CAFOs Regulated By States?

NPDES permits may be issued by EPA or a State authorized by EPA to implement the NPDES program. Currently, 43 States and the Virgin Islands are authorized to administer the NPDES program. Oklahoma, however, has not been authorized to administer the NPDES program for CAFOs.

To become an authorized NPDES state, the State's requirements must, at a minimum, be as stringent as the requirements imposed under the federal NPDES program. States, however, may impose requirements that are broader in scope or more stringent than the requirements imposed at the federal level. In States not authorized to implement the NPDES program, the appropriate EPA Regional office is responsible for implementing the program.

State efforts to control pollution from CAFOs have been inconsistent to date for a variety of reasons. Many States have only recently focused attention on the environmental challenges posed by the emergence of increasing consolidation of CAFOs into larger and larger operations. Others have traditionally viewed AFOs as agriculture, and the reluctance to regulate agriculture has prevented programs from keeping pace with a changing industry. Many states have limited resources for identifying which facilities are CAFOs, or which may be inappropriately claiming the 25-year, 24-hour storm permit exclusion. Some states with a large number of broiler and laying operations do not aggressively try to permit these facilities under NPDES because the technology requirements for these operations in the existing regulation are outdated.

Another reason States may not have issued NPDES permits to CAFOs is the concern over potentially causing operations to lose cost-share money available under EPA's Section 319 Nonpoint Source Program and other assistance under USDA's Environmental Quality Incentive Program (EQIP). Once a facility is considered a point source under NPDES, the operation is not eligible for cost sharing under the Section 319 nonpoint source program. The USDA EQIP program, however, is available to most facilities, and being a permitted CAFO is not a reason for exclusion from the EQIP program. Although EQIP funds may not be used to pay for construction of storage facilities at operations with greater than 1,000 USDA animal units (USDA uses a different definition of animal units than EPA); EQIP is available to these facilities for technical assistance and financial assistance for other practices.

To gather information on State activities concerning AFOs, EPA assembled information into a report entitled, "State Compendium: Programs and Regulatory Activities Related to Animal Feeding Operations, Final Report," dated December 1999, and continues to update information concerning state operations (see "Profile of NPDES Permits and CNMP Permit Requirements for CAFOs," updated periodically). The following discussion draws on information from these reports.

EPA estimates that, under the existing EPA regulations, approximately 9,000 operations with more than 1,000 AU are CAFOs and should be permitted, and approximately 4,000 operations with 300 AU to 1,000 AU should be permitted. However, only an estimated 2,520 CAFOs are currently covered under either a general permit or an individual permit. The 43 states authorized to implement the NPDES program for CAFOs have issued coverage for approximately 2,270 facilities, of which about 1,150 facilities are under general permits and about 1,120 facilities are under individual permits. Of these states, 32 states administer their NPDES CAFO program in combination with some other State permit, license, or authorization program. Often, this additional State authorization is a construction or operating permit. Eight of the states regulate CAFOs exclusively under their State NPDES authority, while three others have chosen to regulate CAFOs solely under State non-NPDES programs. EPA information indicates that, as of December, 1999, seventeen of the 43 states authorized to administer the NPDES program for CAFOs have never issued an NPDES permit to a CAFO.

Of the seven states not authorized to administer the NPDES program, four rely solely on federal NPDES permits to address CAFOs. As of December 1998, EPA has issued coverage for approximately 250 facilities under general NPDES permits.

Virtually all NPDES authorized states use the federal CAFO definition in their State NPDES CAFO program. Most states also use the federal definition for State non-NPDES CAFO programs. Five States, however, have developed unique definitions for their non-NPDES livestock regulatory programs that do not follow the federal definition. These five States typically base their definition on the number of animals confined, weight of animals and design capacity of waste control system, or gross income of agricultural operation. For example, Alabama's new general State NPDES permit covers all operations with at least 250 animal units. Similarly, Minnesota issues State (non-NPDES) feedlot permits to facilities with more than 10 animal units. Minnesota also issues individual NPDES permits to CAFOs as defined under the existing federal regulations.

The regulation of CAFOs is challenging, in part, because of the large number of facilities across the country. There are approximately 376,000 AFOs. Regulating, for example, 5 percent of AFOs would result in some 18,800 permittees. One way of reducing the administrative burden associated with permitting such large numbers of facilities is through the use of general permits. NPDES regulations provide that general permits may be issued to cover a category of dischargers that involves similar operations with similar wastes. Operations subject to the same effluent limitations and operating conditions, and requiring similar monitoring are the types of facilities most appropriately regulated under a general permit. EPA and some authorized States are using general permits to regulate CAFOs, and this trend appears to be increasing.

As mentioned, seventeen of the 43 States authorized to issue NPDES CAFO permits have never issued an NPDES permit to a CAFO, although many regulate CAFOs under non-NPDES programs. Under current regulations, an animal feeding operation that discharges only in the event of a 25-year, 24-hour storm event is not considered to meet the definition of a CAFO (although it may still be designated as a CAFO). EPA believes that many of these facilities have in fact discharged in circumstance other than the 25-year/24-hour storm and should be required to obtain a permit.

The number of non-NPDES permits issued to AFOs greatly exceeds the number of NPDES permits issued. Although the information may be incomplete on the number of state permits issued, more than 45,000 non-NPDES permits or formal authorizations are known to have been issued through state AFO programs. The non-NPDES State authorizations often are only operating permits or approvals required for construction of waste disposal systems. While some impose terms and conditions on discharges from the CAFO, EPA believes that many would not meet the standards for approval as NPDES permits. Because these are not NPDES permits, none meet the requirement for federal enforceability.

Minnesota alone has issued nearly 25,000 State feedlot permits. Kansas has issued more than 2,400 State permits, of which 1,500 have been to facilities with more than 300 animal units. Indiana has issued more than 4,000 letters of approval to AFOs within the State. South Carolina has issued 2,000 construction permits.

With regard to the discharge standards included in permits, 28 NPDES authorized States have adopted the federal feedlot effluent guidelines, while five authorized States use a more stringent limit. These more stringent limits partially or totally prohibit discharges related to storm events. For example, Arkansas regulations prohibit discharges from liquid waste management systems, including those resulting from periods of precipitation greater than the 25-year, 24-hour storm event. In addition, California and North Carolina rules provide for no discharge from new waste control structures even during 100 year storms. Numerous State CAFO permit programs also impose requirements that are broader in scope than the existing federal CAFO regulations.

Twenty-two States have adopted laws that their environmental regulations cannot be more restrictive than the specific requirements in the federal regulations. Should any of these states experience environmental problems with CAFOs, they must rely on appropriate state regulations no more stringent than the federal rules.

Thirty-four States explicitly impose at least some requirements that address land application of manure and wastewater as part of either their NPDES or non-NPDES program. The most common requirements among these States is that CAFO manure and wastewater, when managed through land application, be land applied in accordance with agronomic rates and that the operator develop and use a waste management plan. Although some States do not address how agronomic rates should be determined, many base it on the nitrogen needs of crops, while some require consideration of phosphorus as well. The complexity of waste management plans also varies between states. Some states have very detailed requirements for content of waste management plans, while others do not. Generally, CAFO operators are asked to address estimates of annual nutrient value of waste, schedules for emptying and applying wastes, rates and locations for applying wastes, provisions for determining agronomic rates, and provisions for conducting required monitoring and reporting.

Although data was not available for all States, State agency staff dedicated to AFOs has increased over the last five years. In general, State staff dedicated to AFOs is relatively small, with average staff numbers being below four full-time employees. Several States do not have any staff specifically assigned to manage water quality impacts from AFOs. However, States such as Arkansas, Minnesota, Wisconsin, and Nebraska doubled their staff commitment to AFOs within the last five years. The most notable increases in State staff assigned to address AFOs were in Iowa and North Carolina. Kansas, Minnesota, and North Carolina have the largest AFO staffs in the country, with each having more than 20 full time employees.

One indication that States have an increasing interest in expanding their efforts to control water quality impacts from AFOs is the promulgation of new State AFO regulations and program initiatives. At least twelve states have developed new regulations related to AFOs since 1996. (AL, IN, KS, KY, MD, MS, NC, OK, PA, VT, WA, WY). Kansas, Kentucky, North Carolina, and Wyoming passed legislation regarding swine facilities, with Kentucky and North Carolina imposing moratoriums on the expansion of hog AFOs until State management/regulatory plans could be developed. Similarly, Mississippi also has imposed a 2-year moratorium on any new CAFOs. Alabama's recent efforts include developing an NPDES general permitting rule and a Memorandum of Agreement with EPA outlining State agency responsibilities as they relate to CAFOs. Washington's Dairy Law subjects all dairy farms with more than 300 animal units to permitting and requires each facility to develop nutrient management plans approved by the National Conservation Resource Service. Indiana's Confined Feeding Control Law also requires AFOs to develop waste management plans and receive State approval for operating AFOs.

In conclusion, the implementation of CAFO programs varies from state-to-state, as does the implementation of NPDES programs for CAFOs by NPDES authorized states. As animal production continues to become more industrialized nationwide, a coherent and systematic approach to implementing minimum standards is needed to ensure consistent protection of water quality. Today's proposal will continue to promote a systematic approach to establishing industry standards that are protective of human health and the environment.

D. How Do Today's Proposed Revisions Compare to the Unified National AFO Strategy?

As described in section III.B, on March 9, 1999, EPA and the U.S. Department of Agriculture jointly issued the Unified National Strategy for Animal Feeding Operations (Unified AFO Strategy), which outlined USDA and EPA's plans for achieving better control of pollution from animal agriculture under existing regulations. The following is a comparison chart that illustrates how the proposed rule compares to the Unified AFO Strategy. Table 3-1 compares the proposed CAFO rule requirements with the Unified AFO Strategy and identifies whether the proposed requirements are consistent with or not addressed by the Unified AFO Strategy. The table further shows that, overall, the proposed rule meets the intent of the Unified AFO Strategy.

Table 3-1. Proposed Rule/Unified National AFO Strategy Comparison

Summary of Proposed Rule	Consistent With Unified AFO Strategy	Not Addressed in Unified AFO Strategy	Comment
Proposed Revisions to NPDES Regulations			
<i>Definition of AFO</i> (122.23(a)(2)) - AFO includes land application area; Clarifies crop language.	U	U	The Unified AFO Strategy states CNMPs should address land application of manure. (Sec. 3.1 and 3.2) Crop language not explicitly addressed in Unified AFO Strategy.
<i>Definition of CAFO</i> (122.23(a)(3)) - Change 1,000 animal unit threshold to 500		U	Alternative thresholds not explicitly addressed in Unified AFO Strategy, although Strategy does state EPA will explore alternative ways of defining CAFOs. (Sec. 5, Issue 3, Item 2. B.). The Unified AFO Strategy states that regulatory revisions will consider risk, burden, statutory requirements, enforceability, and ease of implementation (i.e., clarity of requirements). (Sec. 5, Issue 3, Item 2). The Unified AFO Strategy states that 5 percent of the AFOs will be subject to the regulatory program, however, this estimate is provided for the <u>existing</u> regulatory program (see Figure 2). No specific percentage is specified in the Strategy for the revised regulations.
<i>Definition of CAFO</i> (122.23(a)(3)) - Include dry poultry operations	U		The Unified AFO Strategy states that in revising regulations EPA intends to consider defining "... large poultry operations, consistent with the size for other animal sectors, as CAFOs, regardless of the type of watering or manure handling system." (Sec. 5, Issue 3, Item 2. B.).
<i>Definition of CAFO</i> (122.23(a)(3)) - Include immature animals		U	Immature animals not explicitly addressed in Unified AFO Strategy.
<i>Definition of CAFO</i> (122.23) - Removes 25 year/ 24-hour storm provision from definition of CAFO	U		The Unified AFO Strategy states EPA will consider "requiring CAFOs to have an NPDES permit even if they only discharge during a 25-year, 24-hour or larger storm event." (Sec. 5, Issue 3, Item 2. B.).

Summary of Proposed Rule	Consistent With Unified AFO Strategy	Not Addressed in Unified AFO Strategy	Comment
<i>Definition of Operator</i> (122.23(a)(5)) - Includes a person who exercises substantial operational control over a CAFO	U		The Unified AFO Strategy states EPA will “explore alternative approaches to ensuring that corporate entities support the efforts of individual CAFOs to comply with permits and develop and implement CNMPs.” (Sec. 5, Issue 3, Item 2. B.).
<i>Designation as a CAFO</i> (122.23(b)) - In authorized States EPA may designate an AFO as a CAFO. No inspection required to designate facility that was previously defined or designated as a CAFO.	U		The Unified AFO Strategy states EPA will consider “who may designate and the criteria for designating certain AFOs as CAFOs.” (Sec. 5, Issue 3, Item 2. B.).
<i>Who must apply for an NPDES permit</i> (122.23(c)) - CAFOs must either apply for a permit or seek a determination of no potential to discharge.	U		The Unified AFO Strategy states “the NPDES authority will issue a permit unless it determines that the facility does not have a potential to discharge. (Sec. 4.2).
<i>Co-Permitting</i> (122.23(c)(3)) - Operators, including any person who exercises substantial operational control over a CAFO, must either apply for a permit or seek a determination of no potential to discharge.	U		The Unified AFO Strategy states EPA will “explore alternative approaches to ensuring that corporate entities support the efforts of individual CAFOs to comply with permits and develop and implement CNMPs.” (Sec. 5, Issue 3, Item 2. B.).
<i>Issuance of permit</i> (122.23(d)) - Director must issue permit unless s/he determines no potential to discharge.	U		The Unified AFO Strategy states “the NPDES authority will issue a permit unless it determines that the facility does not have a potential to discharge. (Sec. 4.2).

Summary of Proposed Rule	Consistent With Unified AFO Strategy	Not Addressed in Unified AFO Strategy	Comment
<p><i>No potential to discharge</i> (122.23(e)) - Determination must consider discharge from production area, land application area, and via ground waters that have a direct hydrologic connection to surface waters.</p>	U		<p>The Unified AFO Strategy establishes a national performance expectation that all AFOs should develop and implement CNMPs, and that such CNMPs should address land application of manure. (Sec. 3.1 and 3.2).</p> <p>The Unified AFO Strategy states “EPA believes that pollution of groundwater may be a concern around CAFOs. EPA has noted in other documents that a discharge via hydrologically connected groundwater to surface waters may be subject to NPDES requirements.” (Sec. 4.2).</p> <p>The Unified AFO Strategy states EPA will consider protecting “sensitive or highly valuable water bodies such as Outstanding Natural Resources, sole source aquifers, wetlands, ground water recharge areas, zones of significant ground/surface water interaction, and other areas.” (Sec. 5, Issue 3, Item 2. B.).</p>
<p><i>AFOs not defined or designated</i> (122.23(g)) - AFOs subject to NPDES permitting requirements if they have a discrete conveyance (i.e., point source) discharge from production or land application that is not entirely storm water.</p>		U	<p>The Unified AFO Strategy states EPA will consider “clarifying whether and under what conditions AFOs may be subject to NPDES requirements.” (Sec. 5, Issue 3, Item 2. B.).</p>
<p><i>Non-AFO land application</i> (122.23(h)) - Land application inconsistent with practices in 412.31(b) and that result in point source discharge of pollutants to Waters of the US may be designated under 122.26(a)(1)(v).</p>	U		<p>The Unified AFO Strategy states EPA will consider “clarifying requirements for effective management of manure and wastewater from CAFOs whether they are handled on-site or off-site.” (Sec. 5, Issue 3, Item 2. B.).</p>

Summary of Proposed Rule	Consistent With Unified AFO Strategy	Not Addressed in Unified AFO Strategy	Comment
<i>Agricultural Storm Water Exemption</i> - Discharges from land application area if manure is not applied in quantities that exceed the land application rates calculated using one of the methods specified in 40 CFR 412.31(b)(1)(iv).	U		The Unified AFO Strategy states EPA has in the past and will in the future assume that discharges from the majority of agricultural operations are exempt, but that the agricultural storm water exemption would not apply where the discharge is associated with the land disposal of manure or wastewater from a CAFO and the discharge is not the result of proper agricultural practices. (Sec. 4.4).
<i>CAFO permit requirement</i> (122.23(i)(2)) - CAFOs subject to effluent guidelines if applicable.	U		The Unified AFO Strategy states the effluent guidelines revisions will be closely coordinated with any changes to the NPDES permitting regulations. (Sec. 5, Issue 3, Item 2. A.).
<i>CAFO permit requirement</i> (122.23(j)) - Prohibits land application of manure that would not serve agricultural purpose and would likely result in pollutant discharge to waters of the U.S.	U		The Unified AFO Strategy provides that all AFOs should develop and implement CNMPs, and that such CNMPs should address land application of manure to minimize impacts on water quality and public health. (Sec. 3.1 and 3.2).
<i>CAFO permit requirement</i> (122.23(j)(4)) - Permittee must either provide information to recipient or, under one co-proposal option, obtain certification that recipient will land apply per Permit Nutrient Plan (PNP), obtain permit, use for other purpose, or transfer to 3 rd party.		U	The Unified AFO Strategy states EPA will consider “clarifying requirements for effective management of manure and wastewater from CAFOs whether they are handled on-site or off-site.” (Sec. 5, Issue 3, Item 2. B.).
<i>CAFO permit requirement</i> (122.23(j)(5)) - Permit must require specified recordkeeping.		U	The Unified AFO Strategy states EPA will consider “establishing specific monitoring and reporting requirements for permitted facilities.” (Sec. 5, Issue 3, Item 2. B.). The Unified AFO Strategy provides records should be kept when manure leaves the CAFO. (Sec. 3.3).

Summary of Proposed Rule	Consistent With Unified AFO Strategy	Not Addressed in Unified AFO Strategy	Comment
<i>Closure</i> (122.23(i)(3)) - AFO must maintain permit until it no longer has wastes generated while it was a CAFO.		U	Not explicitly addressed in Unified AFO Strategy.
<i>Public access</i> (122.23(l)) - Requires public access to list of NOIs, list of CAFOs that have prepared PNPs, and access to executive summary of PNP upon request.		U	Not explicitly addressed in Unified AFO Strategy.
<i>General Permits</i> (122.28) - Notice of Intent must include topographic map and statement re PNP; additional criteria specified for when individual permits may be required.	U	U	NOI requirements not explicitly addressed in Unified AFO Strategy. The Unified AFO Strategy states EPA will consider “requiring individual permits for CAFOs in some situations.” (Sec. 5, Issue 3, Item 2. B.).
Proposed Revisions to Feedlot Effluent Guidelines Regulations			
<i>Production Area - Beef/ Dairy</i> (412.33(a)): No discharge except when designed for 25 year, 24-hour storm, also inspect/ correct/ pump-out, manage mortalities. <i>Swine/ Poultry</i> (412.43(a)): No discharge.	U	U	The Unified AFO Strategy indicates the existing effluent guidelines is no discharge when designed for 25 year, 24-hour storm. (Sec. 5, Issue 3, Item 2. A). Strategy states that in developing the revised effluent guidelines EPA is to assess different management practices that minimize the discharge of pollutants. (Sec. 5, Issue 3, Item 2. A).
<i>Land Application</i> (412.33(b) and 412.43(b)) - Develop and Implement PNP covering the land application areas under the control of the CAFO. Also include Best Management Practices.	U		PNP has been identified as a specific subset of a CNMP applicable to AFOs subject to the regulation. In this manner it is consistent with the Strategy. It also reinforces that the CNMP is applicable to all AFOs (regulatory/ voluntary) while the PNP is only applicable to those that fall under the regulatory program. It makes a clear distinction between the regulatory and voluntary programs addressed in the Strategy.

Summary of Proposed Rule	Consistent With Unified AFO Strategy	Not Addressed in Unified AFO Strategy	Comment
<i>Land Application</i> (412.31(b)(1)(ii)) - PNP Approved by Certified Specialist.	U		The PNP is a subset of the CNMP. The Strategy identified that CNMPs “developed to meet the requirements of the NPDES program in general must be developed by a certified specialist,”. (Sec. 4.6).
<i>New Source Performance Standards</i> (412.35/45): Various additional requirements.	U		Strategy states that in developing the revised effluent guidelines EPA is to evaluate the need for different requirements for new or expanding operations. (Sec. 5, Issue 3, Item 2. A).
<i>Additional Measures</i> (412.37) - Inspect/ correct/ pump-out, manage mortalities; Land application BMPs, sampling, training, recordkeeping	U		Strategy states that in developing the revised effluent guidelines EPA is to assess different management practices that minimize the discharge of pollutants. (Sec. 5, Issue 3, Item 2. A). Strategy states that the regulatory revision process will include the establishment of specific monitoring and reporting requirements for permitted facilities.